WHITE PAPER – Economic Opportunities Program

LOCAL ECONOMIC DEVELOPMENT AND FINANCIAL INCLUSION

01.10.2019

Clara Volintiru, PhD, Bucharest University of Economic Studies (ASE) / Aspen Institute Romania

George Ștefan, PhD, Bucharest University of Economic Studies (ASE)

Aspen Economic Opportunities & Financing the Economy Program

Aspen Policy Programs seek to improve the quality of leadership and the formulation of policy through evidence-based, multiple stakeholders' dialogue on the challenges facing society. Based on the **Aspen Method** which we profess and practice, we facilitate a transparent, responsible and non-partisan reflection process, between public decision-makers, private stakeholders and representatives of the non-governmental and academic sectors, about various aspects concerning key challenges of the Romanian society. The goal is to set up a platform helping our Program communities reach consensus on concrete policy recommendations in the areas pertaining to our Programs. The difference between Aspen Policy Programs and other initiatives is that we engage with public decision-makers from the start of the reflection process, engaging them in an informal and informed dialogue and fostering mutual ownership of our policy recommendations.

The 2019 edition of the Aspen Economic Opportunities & Financing the Economy Program addresses 3 major topics:

- Financial Education
- Financial Inclusion
- Digital Transformation

For the 2018 – 2019 iteration of the Program, the **Core Deliverables of the Program** include:

- **Working level meetings of the Task Force** with the participation of key stakeholders.
- **3 thematic workshops** on the major topics identified by the Task Force, issuing key policy recommendations.
- A **White Paper** with public policy recommendations to the relevant decision makers, (including the Local Business Environment Index for Romania 2019, LBEI)
- A **Dedicated Panel at Bucharest Forum 2019**, during which the main recommendations of the 2019 program iteration will be presented in a prominent public setting.
- A new customized ***Aspen Leadership Seminar*** for the program community, challenging participants to think more critically and deeply about the good society, and to debate contemporary challenges faced by leaders in the financial sector.

  The participants will include:

  - Program partners representatives
  - Public sector representatives, including Government of Romania, Ministry of Education, Ministry of Public Finance, National Bank of Romania, ANAF, ASF, MDRAP, Competition Council, Eximbank
  - Knowledge Partners (World Bank, EIB, EBRD)
  - Academic & Non-governmental

TABLE OF CONTENTS

1. LOCAL BUSINESS ENVIRONMENT INDEX (LBEI) 2019

In 2018, within Aspen Economic Opportunities & Financing the Economy Program, we proposed Local Business Environment Index (LBEI), an instrument to measure the level of attractiveness of the local business environment. According our knowledge, this index was the first attempt that aimed to develop a metric for assessing economic activity at local level in Romania. Following the existent literature on the different drivers of economic development (starting with the seminal work of Schumpeter), we propose four major axes of assessment: entrepreneurship, innovation, investment financing, and public authorities' support.

Table 1. The pillars of Local Business Environment Index

Local entrepreneurship (E)	Innovation (I)	Investment financing (C)	Local Public Support (LPS)
30%	20%	35%	15%
Number of active companies with Romanian capital (10%) Number of active companies with foreign capital (10%) SRL-D companies (10%)	Number of employees from high tech sectors (10%) [4] Number of students (10%)	Loans to non-financial companies (Romanian Lei and foreign currencies) (20%) Foreign Direct Investments (10%) Access to banking infrastructure (5%)	Capital expenditures (5%) EU funds expenditures (5%) Highways connection (5%)
Data sources			
National Institute of Statistics, Registry of Commerce, Listafirme.ro	Integrated Educational Registry, National Institute of Statistics	National Bank of Romania	European Funds Ministry, World Bank
Local Business Environment Index			
Very low			High
0	25%	50%	75% 100%

Source: National Institute of Statistics, Registry of Commerce, Listafirme.ro, Integrated Educational Registry, National Institute of Statistics, National Bank of Romania, European Funds Ministry, and the World Bank.

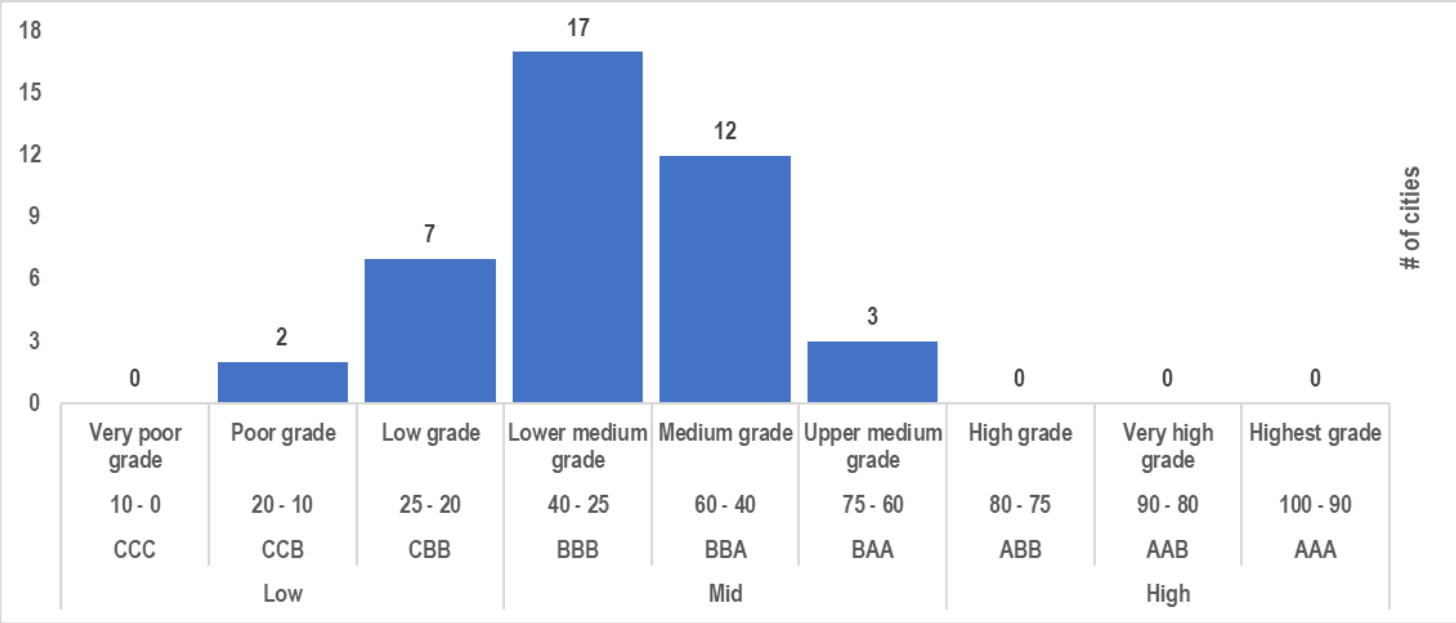
As in the LBEI 2018 Edition, we categorized the 41 municipalities into three categories (High, Medium and Low), each of which is divided into three other categories (High - AAA, AAB, ABB, Mid - BAA, BBA, BBB, and Low - CBB, CCB, CCC). We classify municipalities from Romania to obtain several grades of entrepreneurial and investment ratings. Comparing with 2018 edition there are several important changes. The most important result is that Cluj-Napoca LBEI value increased above Bucharest and also there are more municipalities with medium grade rating, BBA.

As we can see, the best municipalities from Romania have BAA grades, respectively Bucharest, Cluj-Napoca and Timișoara. Thus, the number of BAA cities increased from 2 to 3 cities with Upper medium grade.

Also, the number of municipalities with medium grade rating increased from 7 to 12, while the most municipalities from Romania (17 from 41 municipalities analysed) have a BBB rating, respectively a Lower Medium grade environment for investment and entrepreneurship.

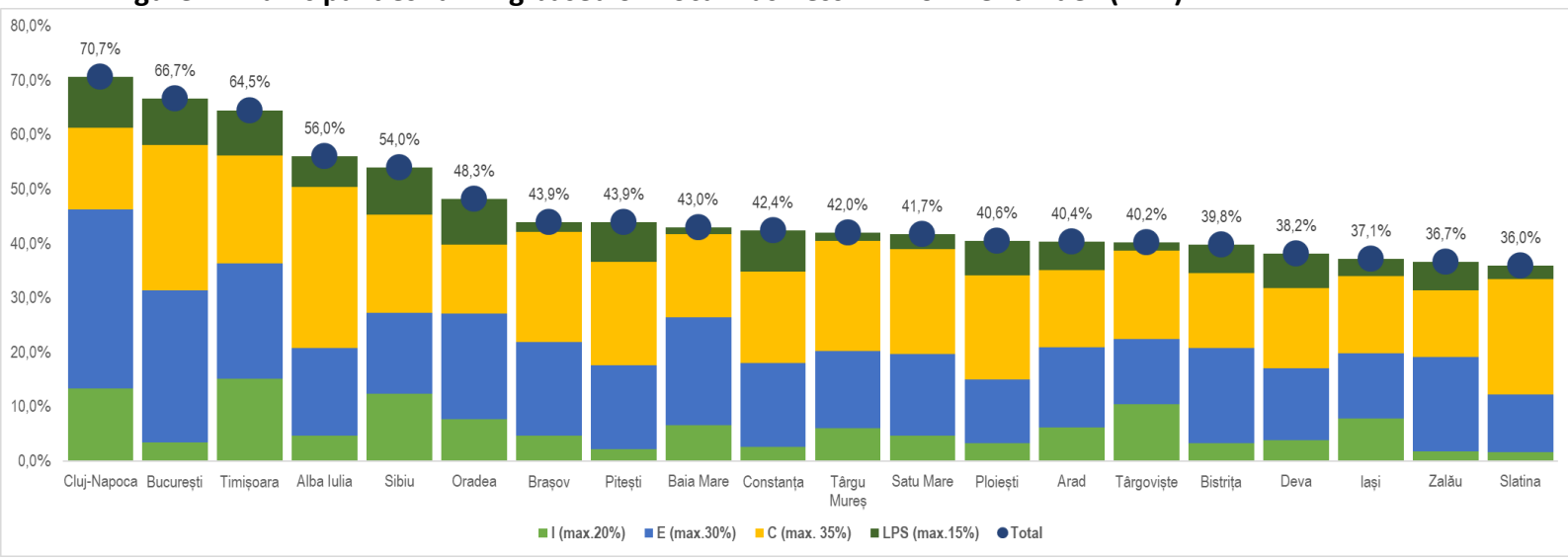
However, according to our methodology, not even one of the 41 municipalities that we have analysed here does not have a High grade in terms of the entrepreneurial and investment environment (rating AAA, AAB, or ABB).

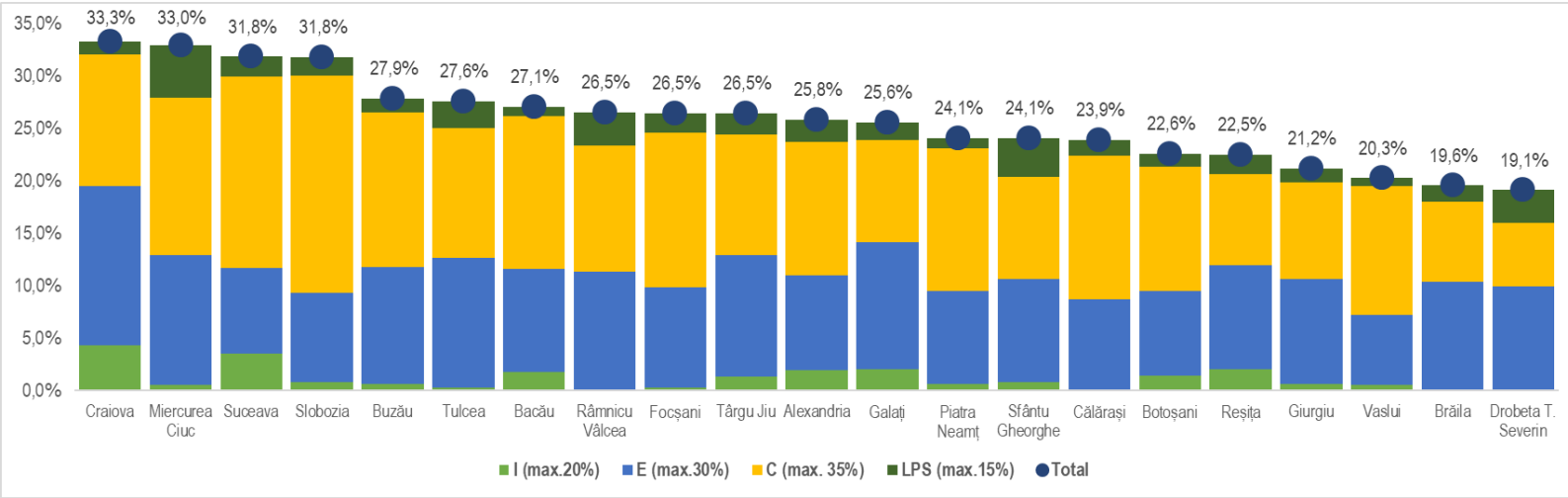
Figure 1. LBEI ranking categories



Source: authors' calculations

Figure 2. Municipalities ranking based on Local Business Environment Index (LBEI)





Source: authors' calculations

The 2019 edition of the LBEI Index presents a different perspective than that of 2018. As can be seen from Figure 2, the first ranked municipality in terms of economic development in 2019 is Cluj-Napoca and not Bucharest. Cluj-Napoca dominated since 2018 the sub-index of Entrepreneurship and that of Innovation. However, it did not score too high on the sub-index of Financing. This year, the financing pillar improved in the case of Cluj-Napoca, leading it to the first position overall in local economic development.

Some cities have recorded double digit growth in the Local Business Environment Index (LBEI) (see Table 2). Beyond Cluj-Napoca (10.2% increase), other municipalities that recorded significant progress in the past year include Alba-Iulia (10.2% increase), Oradea (12.4%), and Satu Mare (10.6%). Others have recorded a decline, scoring a negative difference from 2018: Târgoviște, Focșani, Târgu Jiu, Vaslui, Reșița, Alexandria, Piatra-Neamț.

Table 2. Dynamic perspective on local economic development

		LBEI2019	LBEI2018	Difference
1	**Cluj-Napoca**	70,7%	60,5%	**10,2%**
2	București	66,7%	65,8%	0,9%
3	Timișoara	64,5%	58,9%	5,6%
4	**Alba Iulia**	56,0%	45,8%	**10,2%**
5	Sibiu	54,0%	46,5%	7,4%
6	**Oradea**	48,3%	35,9%	**12,4%**
7	Brașov	43,9%	35,6%	8,3%
8	Pitești	43,9%	41,1%	2,8%
9	Baia Mare	43,0%	36,2%	6,8%
10	Constanța	42,4%	36,6%	5,8%
11	Târgu Mureș	42,0%	40,8%	1,3%
12	**Satu Mare**	41,7%	31,2%	**10,6%**
13	Ploiești	40,6%	38,7%	1,9%
14	Arad	40,4%	40,3%	0,1%
15	Târgoviște	40,2%	40,9%	**-0,7%**
16	Bistrița	39,8%	35,2%	4,6%
17	Deva	38,2%	35,0%	3,2%
18	Iași	37,1%	31,3%	5,8%
19	Zalău	36,7%	27,3%	9,4%
20	Slatina	36,0%	32,7%	3,3%
21	Craiova	33,3%	32,9%	0,3%
22	Miercurea Ciuc	33,0%	31,1%	1,8%
23	Suceava	31,8%	30,5%	1,3%
24	Slobozia	31,8%	30,7%	1,1%
25	Buzău	27,9%	24,3%	3,6%
26	Tulcea	27,6%	21,3%	6,3%
27	Bacău	27,1%	24,9%	2,1%
28	Râmnicu Vâlcea	26,5%	26,1%	0,5%
29	Focșani	26,5%	30,8%	**-4,3%**
30	Târgu Jiu	26,5%	29,5%	**-3,0%**
31	Alexandria	25,8%	27,7%	**-1,8%**
32	Galați	25,6%	22,1%	3,4%
33	Piatra Neamț	24,1%	24,4%	**-0,3%**
34	Sfântu Gheorghe	24,1%	21,2%	2,9%
35	Călărași	23,9%	21,8%	2,1%
36	Botoșani	22,6%	21,3%	1,3%
37	Reșița	22,5%	22,9%	**-0,4%**
38	Giurgiu	21,2%	17,4%	3,8%
39	Vaslui	20,3%	22,6%	**-2,3%**
40	Brăila	19,6%	17,9%	1,7%
41	Drobeta T. Severin	19,1%	16,3%	2,8%

Source: authors' calculations

Table 3. Dynamic perspective on LBEI by pillar

		Innovation Index	Entrepreneurship Index	Investment index	LPS index (max.15%)	LBEI 2019-2018 Diff.
1	Oradea	2,9%	5,9%	-2,1%	5,7%	12,4%
2	Satu Mare	3,5%	4,7%	0,3%	2,0%	10,6%
3	Alba Iulia	0,7%	5,2%	0,3%	3,9%	10,2%
4	Cluj-Napoca	0,2%	10,4%	1,2%	-1,6%	10,2%
5	Zalău	0,3%	7,7%	-2,9%	4,3%	9,4%
6	Brașov	0,3%	5,4%	3,0%	-0,3%	8,3%
7	Sibiu	0,7%	5,4%	0,2%	1,2%	7,4%
8	Baia Mare	0,4%	6,8%	-0,6%	0,3%	6,8%
9	Tulcea	0,0%	4,4%	1,1%	0,8%	6,3%
10	Iași	0,2%	3,9%	0,5%	1,2%	5,8%
11	Constanța	0,0%	4,9%	1,3%	-0,4%	5,8%
12	Timișoara	0,4%	6,0%	0,6%	-1,3%	5,6%
13	Bistrița	-0,2%	6,2%	-0,4%	-1,0%	4,6%
14	Giurgiu	0,5%	3,5%	-1,2%	1,0%	3,8%
15	Buzău	-0,1%	3,8%	-1,3%	1,2%	3,6%
16	Galați	0,1%	4,1%	-1,0%	0,3%	3,4%
17	Slatina	0,3%	3,6%	2,0%	-2,6%	3,3%
18	Deva	0,0%	4,3%	-1,7%	0,6%	3,2%
19	Sf. Gheorghe	0,0%	3,1%	-1,1%	0,8%	2,9%
20	Pitești	-3,1%	5,3%	0,2%	0,5%	2,8%
21	Dr. T. Severin	-0,3%	3,2%	-2,5%	2,4%	2,8%
22	Bacău	0,2%	3,3%	-0,9%	-0,4%	2,1%
23	Călărași	0,1%	3,0%	-0,6%	-0,3%	2,1%
24	Ploiești	0,0%	3,8%	-0,8%	-1,2%	1,9%
25	Miercurea Ciuc	0,4%	3,5%	-2,0%	0,0%	1,8%
26	Brăila	0,0%	3,5%	-1,9%	0,1%	1,7%
27	Suceava	0,4%	1,7%	-1,2%	0,4%	1,3%
28	Botoșani	-0,1%	2,7%	-1,9%	0,6%	1,3%
29	Tg. Mureș	0,1%	4,5%	-1,1%	-2,2%	1,3%
30	Slobozia	0,0%	3,0%	-1,4%	-0,5%	1,1%
31	București	0,2%	6,2%	-5,4%	-0,1%	0,9%
32	R. Vâlcea	0,0%	3,9%	-1,4%	-2,0%	0,5%
33	Craiova	0,0%	5,2%	-2,2%	-2,7%	0,3%
34	Arad	0,6%	4,1%	-0,4%	-4,2%	0,1%
35	Piatra Neamț	-0,1%	2,9%	-3,1%	0,0%	-0,3%
36	Reșița	-0,1%	3,3%	-4,1%	0,6%	-0,4%
37	Târgoviște	-0,1%	4,4%	-3,6%	-1,5%	-0,7%
38	Alexandria	0,0%	3,1%	-4,2%	-0,8%	-1,8%
39	Vaslui	-0,3%	2,3%	-4,1%	-0,2%	-2,3%
40	Tg. Jiu	0,0%	3,9%	-6,8%	-0,1%	-3,0%
41	Focșani	0,2%	3,3%	-7,9%	0,1%	-4,3%

Source: authors' calculations

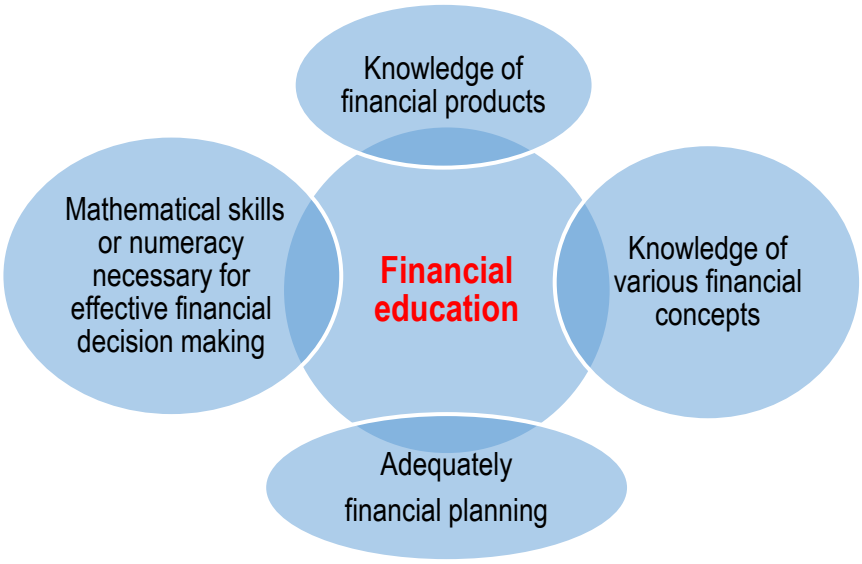
2. FINANCIAL EDUCATION

CONTEXT

The importance of financial education is well recognized in society. At individual level it influences private welfare (e.g. better decisions, lower level of indebtedness, better opportunities etc.). At macroeconomic level, it can impact the entire economic ecosystem (i.e. policies are better understood by the citizens and are thus more effective).

One of the definitions regarding the financial education or financial literacy is proposed by *Jump$tart Survey of Financial Literacy Among High School Students* (1997)[1], as "*the ability to use knowledge and skills to manage one's financial resources effectively for lifetime financial security*."

Figure 3. The four dimensions of financial education



Source: based on Hastings et al. (2013)

According to Hastings et al (2013)[2], "*a lack of financial literacy is problematic if it renders individuals unable to optimize their own welfare*". There are various studies that demonstrate the effects of low financial literacy level. For example, Campbell (2006)[3] highlights several types of financial mistakes associated with financial literacy:

- low levels of stock market participation and inadequate diversification of investment

[1]The Jump$tart Coalition for Personal Financial Literacy was formed in December, 1995 to "encourage curriculum enrichment to ensure that basic personal financial management skills are obtained during the K-12 educational experience." In its mission statement, the not-for-profit Coalition states that its purpose is to "evaluate the financial literacy of young adults: develop, disseminate and encourage the use of standards for grades K-12; and promote the teaching of personal finance. In the 1997-98 school year, the Jump$tart Coalition for Personal Financial Literacy conducted its first Personal Financial Survey, a nationwide survey of 12th grade students to determine the ability of our young people to survive in a complex economy. See for more details https://www.stockmarketgame.org/assets/pdf/2008%20JumpStart%20Financial%20Literacy%20Survey.pdf

[2] https://pdfs.semanticscholar.org/f74d/47265b64ac646d50047791cbf1a214ab89f8.pdf

[3] Campbell JY. 2006. Household finance. J. Finance 61:1553–604

- individuals' tendencies to sell assets that have appreciated while holding onto assets with declined value even if future return prospects are the same
- failures to refinance fixed-rate mortgages in a period of declining interest rates.

Agarwal et al. (2009) document the prevalence of several different financial mistakes, ranging from suboptimal credit card use after making a balance transfer to an account with a low teaser rate to paying unnecessarily high interest rates on a home equity loan or line of credit. The authors find that the frequency of financial mistakes varies with age, following a U-shaped pattern: financial mistakes decline with age until individuals reach their early fifties and then begin to increase again. The declining pattern up to the early fifties is consistent with the acquisition of increased financial decision-making capital over time, either formally or through learning from experience (Agarwal et al. 2011), but the reversal at older ages highlights the natural limits that the aging process places on individuals' financial decision-making capabilities, as well as technological changes.

Studies generally agree that consumers lack the financial literacy necessary to make important financial decisions in their own best interests (Perry 2008; Braunstein & Welch 2002), and that financial knowledge appears to be directly correlated with self-beneficial financial behavior (Hilgert, Hogarth, & Beverly, 2003).

Lewis Mandell and Linda Schmid Klein (2009) evaluated the Impact of financial literacy education on subsequent financial behaviour. Their findings indicated that those who took the course were no more financially literate than those who had not, and those who took the course did not evaluate themselves to be more savings-oriented and did not appear to have better financial behavior than those who had not taken the course. This of course brings forth the question of how to make financial education an effective tool of changing human behaviour.

Essentially the following links in the financial education should be accounted for:

⇒ Financial Literacy

⇒ Financial Education

⇒ Financial Behaviour

Financial literacy can be seen as the baseline level of financial knowledge or capability at individual or societal level

A meta-analysis of the financial literacy studies over the past decade shows four key areas of intervention in USA based interventions aimed at enhancing financial literacy: (1) Money basics (including time value of money, purchasing power, personal financial accounting concepts), (2) Borrowing (i.e., bringing future resources into the present through the use of credit cards, consumer loans or mortgages), (3) Investing (i.e., saving present resources for future use through the use of saving accounts, stocks, bonds or mutual funds), and (4) Protecting resources (either through insurance products or other risk management techniques) (Huston 2010).

Financial education is a knowledgeable use of money, as consumers are well informed.

Financial behaviour is the actual decision-making process regarding a variety of financial aspects in an individual's life (e.g. payments, credit, savings).

NATIONAL COMPARISONS IN FINANCIAL EDUCATION

Worldwide, just 33% adults show an understanding of basic financial concepts according the study *Financial Literacy Around the World: Insights from The Standard & Poor's Ratings Services Global Financial Literacy Survey*[4], realized by World Bank and Standard & Poor's Rating Agency.

The main conclusion of the study was that around the world the level of financial literacy is relatively low. Some countries still have difficulties in understanding some basic concepts like numeracy and inflation, while more complicated terms like „risk diversification" are the least understood. However, the study concludes that the young are a vulnerable group and an important target for financial education programs.

In European Union, the financial literacy rates vary. On average, 52 percent of adults are financially literate above the global average. The understanding of financial concepts is the highest in northern Europe – countries like Denmark, Germany, the Netherlands, and Sweden have the highest literacy rates in the European Union - at least 65% of their adults are financially literate.

Lower rates are registered in southern Europe (Greece – 45%, Spain – 49%). Financial literacy rates are also low among the countries that joined the EU in 2004 and 2007. The results of the study show that in Bulgaria and Cyprus only 35 percent of adults are financially literate, while in Romania only 22 percent of adults are financial literacy. This is the lowest rate in the European Union. Romania is followed by Portugal (26%).

The study shows that in richer countries, with a higher GDP per capita, financial literacy rates tend to be higher. However, the relationship is not valid for the poorer economies - with a GDP per capita of $12,000 or less-, where is no evidence that income is associated with financial literacy.

Figure 4. Relationship between financial literacy and economic development

Source: S&P Global FinLit Survey and Global Findex database.

According to a recent study by KPMG, Romania has to recover a significant gap in the financial education of its population. Only 1 out of 5 adults have a basic understanding of financial products, placing Romania on the last place in Europe with a 21% financial education rate.[5]

[4] https://gflec.org/wp-content/uploads/2015/11/3313-Finlit_Report_FINAL-5.11.16.pdf?x37611
[5] http://appa-asigurari.ro/doc/Studiu_KPMG_APPA.pdf

A total of 19 of the 28 member states in the European Union have implemented a national financial education strategy. Results show that this is the most prolific setting for a systematic approach to financial education.

A National Strategy for Financial Education is currently being developed in Romania as well. It is informed by a coordinated effort on the part of various stakeholders, including government, financial sector, consumer organizations, NGOs etc. More specifically, The Ministry of National Education, the National Bank of Romania, the Ministry of Public Finance, the Financial Supervisory Authority and the Romanian Association of Banks have concluded a Cooperation Agreement[6]. The purpose of the agreement is to develop, acquire and deepen elements of financial education at primary, secondary, high school, university and adult education levels. The collaboration agreement provides an interinstitutional framework through which the five signatory parties will carry out joint activities in the field of financial education for target groups and exchange of experience on existing partners' initiatives in the field of financial education.[7]

[6] https://www.arb.ro/acord-de-colaborare-pentru-elaborarea-strategiei-nationale-de-educatie-financiara/
[7] Idem.

FINANCIAL INCLUSION

Finance has always been considered as one of the important drivers of growth for any economic activity and, at the same time, financial inclusion can be a facilitator of growth creating opportunities for the weaker counties and cities from Romania.

Financial inclusion is a system with multiple dimensions, through which a country can generate inclusive economic growth by connecting the more powerful economic regions / poles/cities with weaker or rural population of the country.

From a theoretical perspective, the link between financial inclusion and economic development was an important subject, starting with the seminal work of Schumpeter (1911). The Austrian economist consider finance – alongside innovation and entrepreneurship -, a **drive force for economic growth**. Further, different researchers develop the theoretical framework of Schumpeter regarding the impact of financial inclusion on growth, especially from the view of accessibility of financial services, expansion of bank branches, barriers to finance and the overall contribution of banking sector at GDP growth.

For example, Goldsmith (1969) and McKinnon (1973) supported the Schumpeter approach, emphasizing that financial system plays a positive role toward economic growth through investment. The authors consider that *„financial market determination set interest rate and increase demand for financial services which further develop competition among the banks and ensure the rise of saving rates and investment*". Additionally, Boyd and Prescott (1986) and Diamond (1984) and Aghion et al. (2004) affirms that financial markets stimulate saving and investment which then results in sustainable economic growth.

According to this approach, financial sector services contributes not only in terms of accessibility of capital formation but also encourage innovation, efficiency and investment, and finally output. Also, a strong banking sector as a major financial intermediation mechanism has **an important role for long run growth and productivity** via capital accumulation.

However, most of them concluded that **policymakers have a role to play in order to increase the network branches, penetration of financial services and also eradicate all barriers toward accessing financial services in order to ensure the support of finance for sustainable growth**.

Some authors correlated the financial inclusion with youth entrepreneurship and rural areas (see, for example, Lyons and Contreras (2017) or gender heterogeneity (Kairiza, Kiprono, and Magadzire, 2017), while Cumming et al. (2014) shows that there is a significant relationship between the access to financial services and economic growth via entrepreneurship. **They show that entrepreneurs are stimulated to take risk and to investment more if the access to finance is high and as a result boost the economic growth**.

Also, there are some studies that measure the impact of financial inclusion (defined as density of commercial bank branches per 100,000 adults and ATMs per 100,000 adults) on economic growth (see Balach et al., 2016). Furthermore, Beck et al.(2007), reported that, the rising number of bank branches also generate efficiency among the banks and growth economy as whole.

Other two studies, published by Mehrotra et al. (2009) and Khan (2011) highlighted the importance of accessibility of banking services to the people in order to boost economic growth via multiplier effect as well as employment opportunities. Additionally, a more recent study published by Sethi and Acharyaa (2018) assess the link between financial inclusions on growth for a panel of 31

countries and concluded that, financial inclusion encourage growth (see also Swamy (2010), Arora (2010)).

CURRENT CONTEXT

Regional disparities are very high in Romania, and as such there are general inclusion challenges. In terms of financial inclusion, physical and technical aspects play an additional role in determining the level of inclusion at the population level.

Romania is the member state that occupies the last position in terms of financial intermediaries (calculated as the weight of non-government credit against the GDP) with only 26%[8]

Financial inclusion means that all citizens, regardless of income levels, have access to and can make effective use of the financial services they need.

Currently, in terms of financial education & inclusion, Romania is one of the less financially inclusive and educated country from Europe. Some figures are relevant here. According to the Global Financial Inclusion database from World Bank, only 57.8% of total adults own and bank account in 2017, compared with the Euro Area average, where more than 95% of adults have a banking account. In fact, in Romania this figure decreased comparatively with 2014 (60.8%).

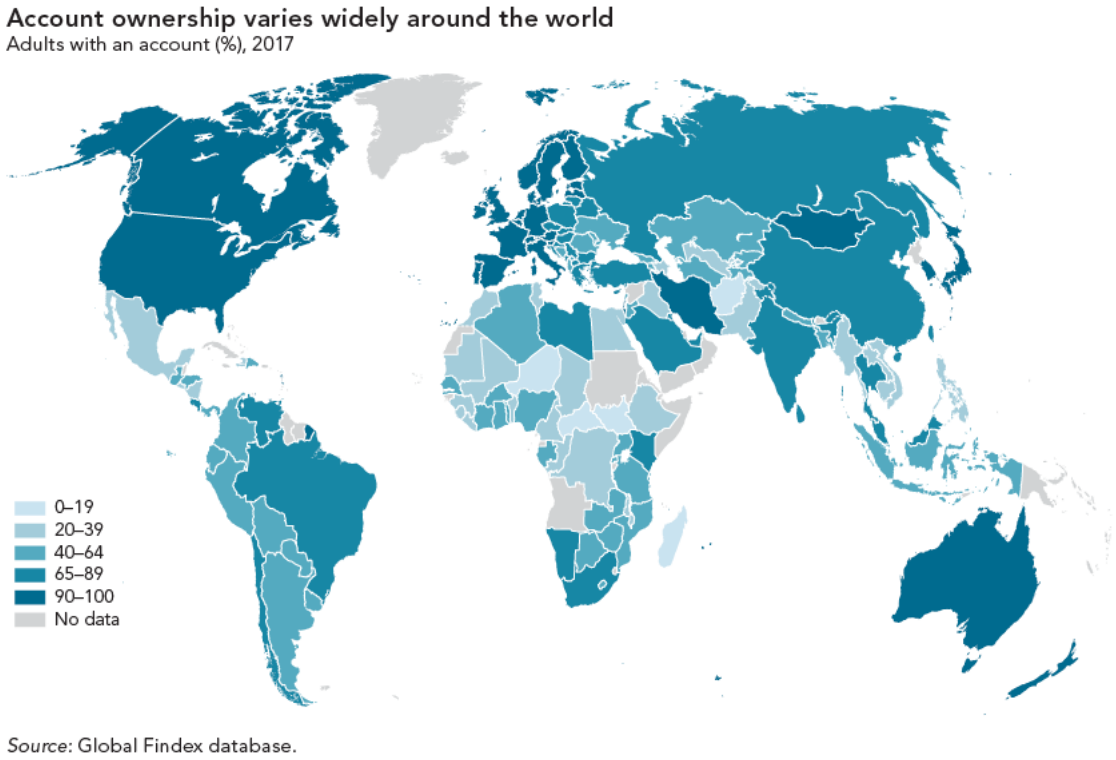
Globally, 69 percent of adults have an account, up from 62 percent in 2014.

Also, in Romania the total percentage of paid utility bills using cash in total utility bills was 86.8% in 2017, 8 times larger than the Euro Area average of (10.9%) for the same indicator. Another two indicators show the same situation. The percentage of persons that used the internet to pay bills (age 15+) was 12.0% (compared with 49.6% in Euro Area), while only 15.6% used the internet to buy something online in the past year (age 15+), three times lower than Euro Area average (56.3%).

At global level, about 1.7 billion adults are unbanked—without an account at a financial institution or through a mobile money provider. In 2014 that number was 2 billion. According the Global Findex Report 2018, there are several reasons due to the adults don't have a banking account, the most important barriers to account ownership being: (i) lack of enough money; (ii) the need; and (iii) the accounts too expensive. Other reasons could be the lack of trust, lack of necessary documentation, distance from the financial institution or even religious reasons.

[8] ARB (2018) Where Is Financial Intermediation Heading To? https://www.arb.ro/en/the-banking-union/

Figure 5. Financial account ownership at global scale

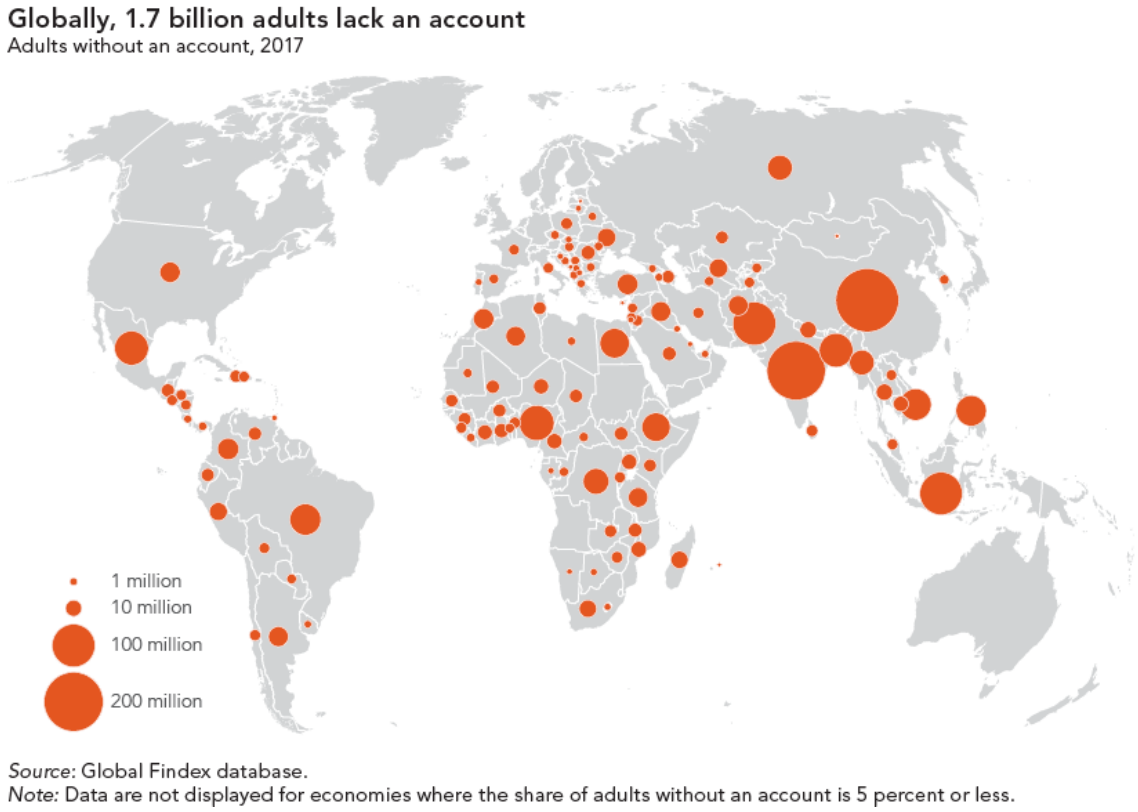


At global level, about 1.7 billion adults are unbanked—without an account at a financial institution or through a mobile money provider. In 2014 that number was 2 billion. According the Global Findex Report 2018, there are several reasons due to the adults don't have a banking account, the most important barriers to account ownership being:

(i) lack of enough money;
(ii) the need; and
(iii) the accounts too expensive.

Other reasons could be the lack of trust, lack of necessary documentation, distance from the financial institution or even religious reasons.

Figure 6. Financial exclusion at global scale



FINTECH

Digitalisation can be an important tool to promote inclusion.

Digital technologies have spread rapidly in much of the world paving the way for innovation in delivering financial services. There are different areas of the financial sector that are impacted by these changes: payment services and market infrastructure, leveraging transaction data and other sources of data for credit appraisals, deposits, lending and capital raising, or investment managing[9].

Financial and technological innovation has the ability to improve the outreach of financial institutions to specific social policy target groups, such as female entrepreneurs, migrants, financially disenfranchised individuals, the rural population or social enterprises.

While the intensity of the income inequality debate has somewhat receded in recent years, the issue itself is still highly relevant. Persistent and large income disparities threaten the social fabric of European society and require an appropriate policy response. A proper, long-term solution would be providing opportunities to the most deprived members of society to realize their demonstrated entrepreneurial ambitions. Inclusive Finance, that is providing financial and non-financial products and services to unemployed people or clients from other vulnerable groups, is a policy instrument intended to alleviate poverty and reduce income inequality. However, the inclusive finance sector has come under increased scrutiny and has been criticized for a number of reasons: the outreach

[9] World Bank (2017) Fintech and Financial Inclusion, http://pubdocs.worldbank.org/en/877721478111918039/breakout-DigiFinance-McConaghy-Fintech.pdf

has stagnated, and loan pricing is considered often too high to address effectively any policy concerns related to poverty alleviation.[10]

There is an increasing gap between current supply and demand in financial services in low-income countries. A rapidly growing population combined with dynamic economic growth are the key drivers behind this gap. Research by Morgan Stanley emphasized that without large groups of users, blockchains would not be successful[11].

The financial services infrastructure is shallow in almost all the low-income countries. But the lack of financial infrastructure also means less inertia and more potential for the implementation of new technology. The blockchain revolution is less disruptive in markets with little financial service infrastructure. Consequently, regulators and existing financial institutions in these markets have less incentive for blocking this revolution.

The use of mobile phone payments system combined with blockchain technology offers a powerful combination and is promising for financial inclusion.

While there have been significant advances made in terms of financial inclusion in the world, in recent years (see annual Global Findex Data for comparison with previous years), the developing countries, and vulnerable groups (i.e. women, poor) remain largely unbanked. As such, recent estimates suggest that digitalizing private-sector payments of wages could increase the number of adults with an account by up to 280 million, while digitalizing public-sector wages could ensure up to 160 million people get a bank account. Nevertheless, the infrastructure support for inclusive financial services lags behind.

BENCHMARKING THE SITUATION IN ROMANIA

Financial inclusion in Romania can be seen as an offer and demand problem. In terms of offer, Romania has made significant progress over the past years, in terms of technological proficiency, accessibility and spread. Currently, there are approximately 13 mil. active cards in Romania.

In contrast, in terms of demand, there is still a significant share of the population does not have any kind of access to the financial system: 1 in 3 persons do not have a bank account. Furthermore, card transactions remain limited, especially in rural areas where the penetration of payment infrastructure (i.e. POS, ATM) is limited. However, from the population that does own a card, the intensity of its usage is higher than the regional average.

The poor penetration of financial instruments can be attributable to four factors:

- Accessibility
- Affordability (i.e. cost of usage)
- Lack of (financial) education
- Lack of trust in financial providers

[10] EIB (2019) Building the future of inclusive finance: the role of Fintechs and digitalisation
[11] http://www.morganstanley.com/ideas/big-banks-try-to-harness-blockchain

We should place financial exclusion in the broader socio-economic traits of the Romanian population: 35.7% find themselves at the poverty threshold or at risk of social exclusion (Eurostat 2017). This value is much higher compared to the EU average of 22.5% (Eurostat 2017).

The distribution of poverty in Romania is not only geographical (i.e. rural vs. urban), but also can be found concentrated in poverty bags in the more affluent cities such as the capital city of Romania. According to the most recent Eurostat data, Romania finds itself on the second highest position in the European Union with the level of people who are at risk of poverty or social exclusion (37.5% of total population) behind Bulgaria with 38.9%, and significantly above the EU average of only 22.4%.

In conclusion, financial inclusion can be assessed according to three differentiation dimensions:

- Geographical (urban vs. rural)
- Socio-economic (rich vs. poor)
- Generational (younger and older generations as vulnerable groups)

All these three dimensions should be targeted strategically in order to achieve the best possible outcomes in the public and private efforts to promote financial inclusion.

FINANCIAL INCLUSION INDEX AT LOCAL LEVEL FOR ROMANIA

In general, researchers construct the financial inclusion indices at a national level (especially in emerging / developing countries). A very small number of studies treats the problem of financial inclusion at regional or municipal level.

We develop the Financial Inclusion Index at Local Level (FIILL) for Romania starting from various studies. For example, Mandira Sarma (2004) uses three dimensions to calculate the index at national level, in 2004, in India: banking penetration (the number of bank accounts per 1000 adults), availability (the number of bank branches and number of ATM's per 1000 adults), and usage (deposits plus credits as a percentage of GDP).

Kempson et al. (2004) treats some measurements for financial exclusion (barriers) as: identity requirements, terms and conditions of bank accounts, levels of bank charges, physical access to bank branches, psychological and cultural influences and ease of use of banking services. Analyzing also the barriers, Chakraborty (2010) has classified them as supply side and demand side barriers.

Looking to Romania situation, we constructed the index starting from **four pillars**, presented below:

I. **Macroeconomic situation** – to capture the economic (public & private) activity and labor market development

II. **Access to physical infrastructure** – to measure the banking system capability to penetrate the municipalities and to offer access to financial services

III. **Financial operation** – to capture the effects and the usage of financial instruments and banking products

IV. **Barriers** – to measure different factors that can generate financial exclusion

In developing Financial Inclusion Index at Local Level (FIILL) we adopted a non-parametric approach and it is multidimensional, taking account several relevant aspects for financial activity at local level. We assigned the importance of every indicator and sub-indicator by choosing the weighs

exogenously, based mainly on the different banking institutions recommendations, experience and author's intuition.

Our purpose was to compute the index starting from variables that are relevant financial inclusion phenomena, measurable and also available at local level (i.e. counties capitals) because the granularity of some of the indicator is usually at most at national/regional level.

Table 4. Pillars of Financial Inclusion Index at Local Level for Romania

Financial Inclusion Index at Local Level for Romania			
I. Macroeconomic situation	**II. Access to physical infrastructure**	**III. Financial operations**	**IV. Barriers**
20%	**25%**	**35%**	**20%**
1. Number of employees	1. ATMs per 10.000 persons	1. Households Savings	1. Days necessary to obtain a debit card
2. GDP per capita (Euro)	2. Banking branches per 10.000 persons	2. Households Credits	2. Trust in financial institution
3. Number of (retail) companies		3. Bank accounts per 10.000 persons	3. Cost to open/maintain (minimum fee) an account
4. Local public budget balance		4. Local Utilities / taxes payments	
		5. Debit/Credit cards per 10.000 persons	
		6. POS devices and transactions	
		7. Social benefits paid on card	
		8. Access to insurance (house, life)	
Data sources			
INS, Ministry for Regional Development and Public Administration	Banking institutions	NBR, PAID, banking institutions	Banking institutions and own research

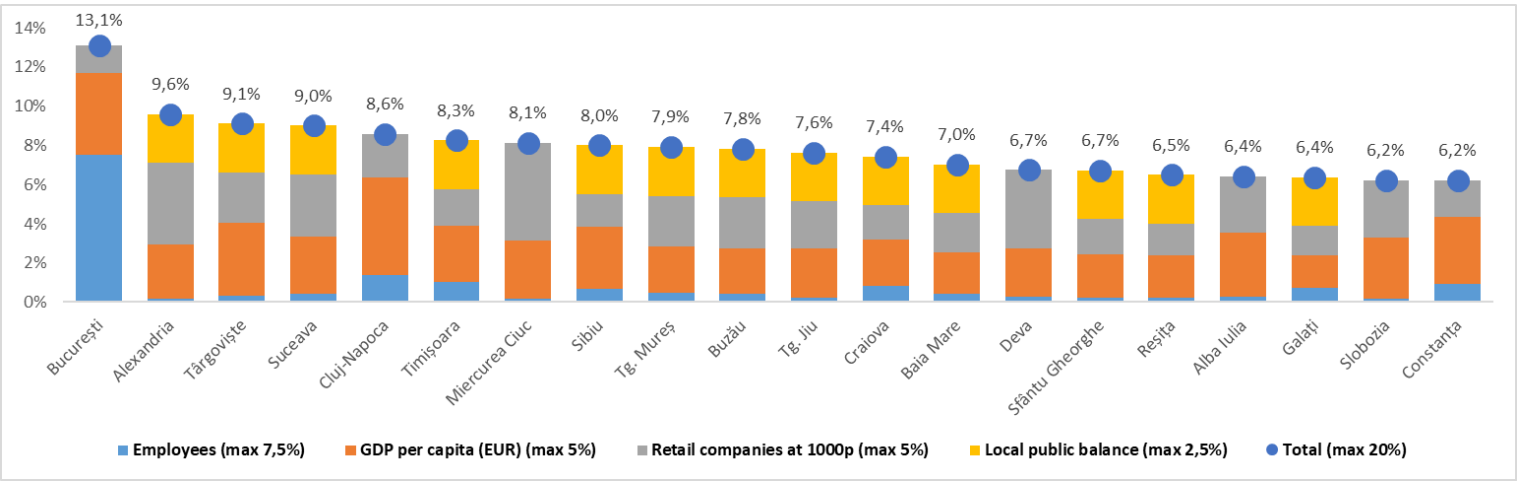
Source: authors' prelucration

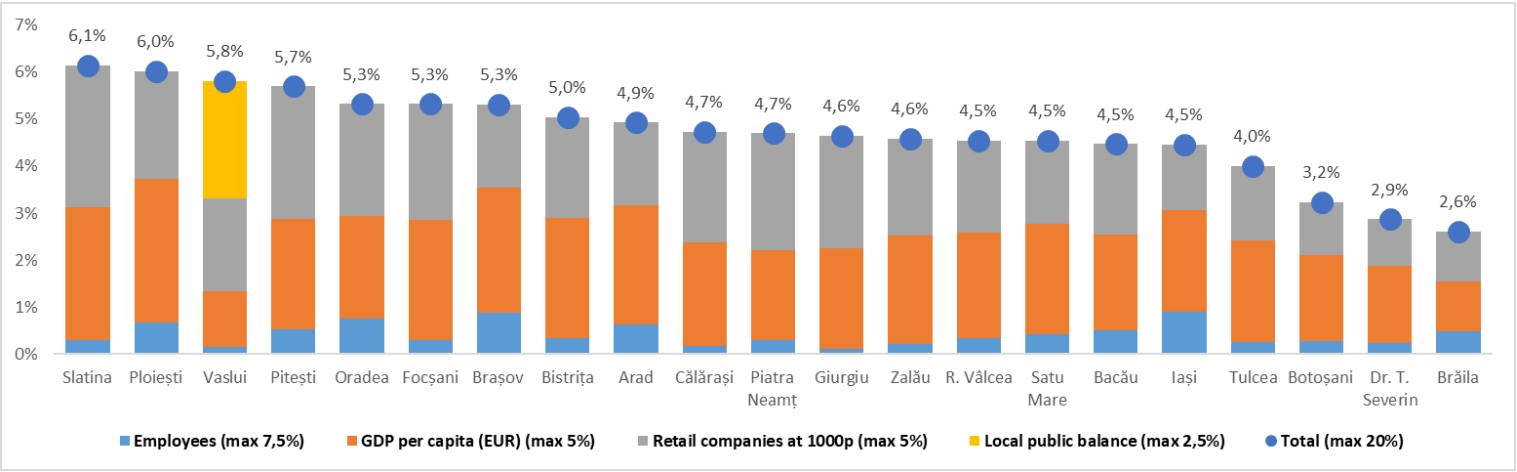
It can be seen that financial operations and access to physical infrastructure are the most important pillars based on the weights values (35% and, respectively, 25%), while the macroeconomic situation and barriers are equally weighted (with 20% each). Also, the pillar regarding access to physical infrastructure was constructed based on the population of the counties capital for the current index, while other authors use as proxies the number of ATM / banking branches reported at the area (meters squared).

Macroeconomic situation

First pillar reflects the macroeconomic situation at local level, measured by four variables: GDP per capita (5%), Number of employees (7,5%), Number of retail companies at 1000 persons (5%) and Local public balance (2,5%). The latter was considered in order to capture the potential negative crowding-out effect from the public sector. We computed the impact of public sector on the index in a binary manner: with 1 if the county-capital registered budgetary surplus, and 0 if there was budgetary deficit.

Figure 7. The macroeconomic situation pillar at local level (2017-2018)





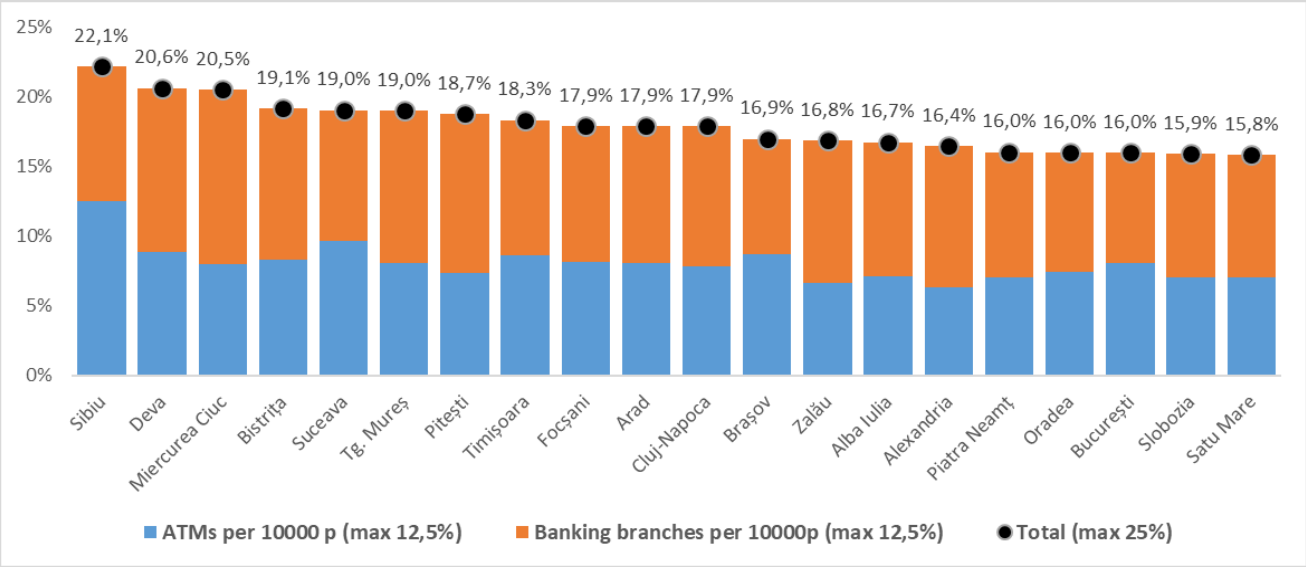
Source: authors' calculations

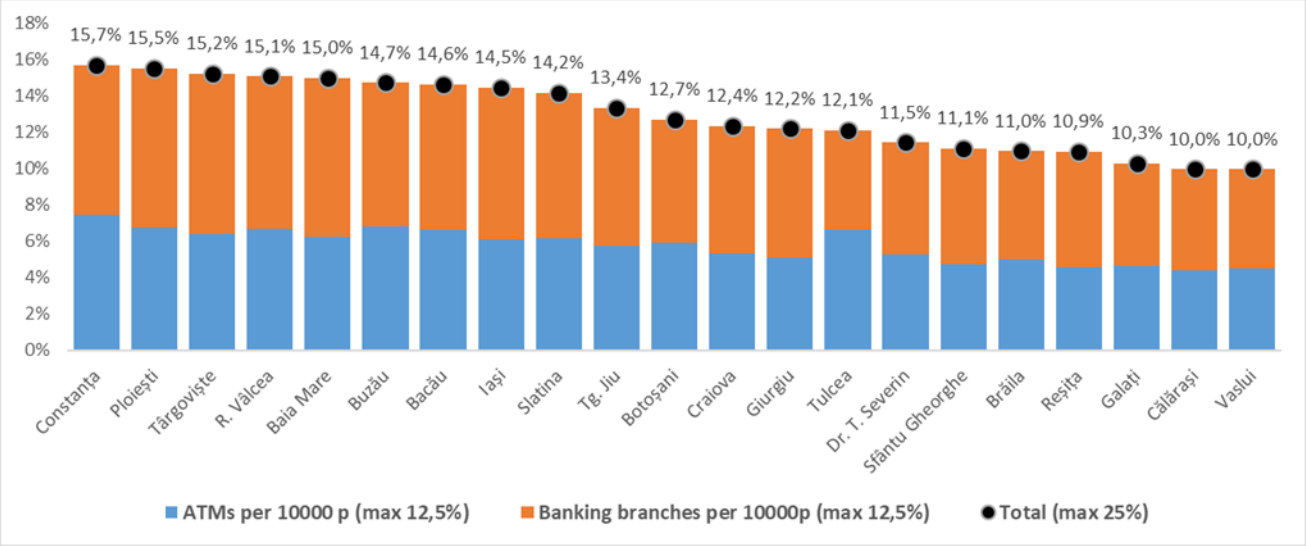
From the macroeconomic perspective, based on the data considered, Bucharest has the most favorable situation, especially due to the big number of local employees (aprox. 1 million persons) and GDP per capita. The last places are occupied by Tulcea, Botoșani, Drobeta Turnu Severin and Brăila. However, thre are some favorable situations of public finances that contributed to the relatively better positions in Alexandria, Târgoviște, Suceava, Cluj Napoca, Timișoara, Baia Mare, Craiova, Galați, Vaslui, Sf. Gheorghe or Reșița.

Access to physical infrastructure

In terms of access to banking infrastructure – measured as ATMs at 10.000 persons and banking branches at 10.000 persons-, Sibiu, Deva and Miercurea-Ciuc have the best positions, with a high rate of both ATMs (Sibiu) and banking branches (Miercurea-Ciuc and Deva). According the data, Brăila, Reșița, Galați, Călărași and Vaslui are municipalities with the lowest values regarding the access to physical infrastructure items.

Figure 8. Access to physical infrastructure pillar

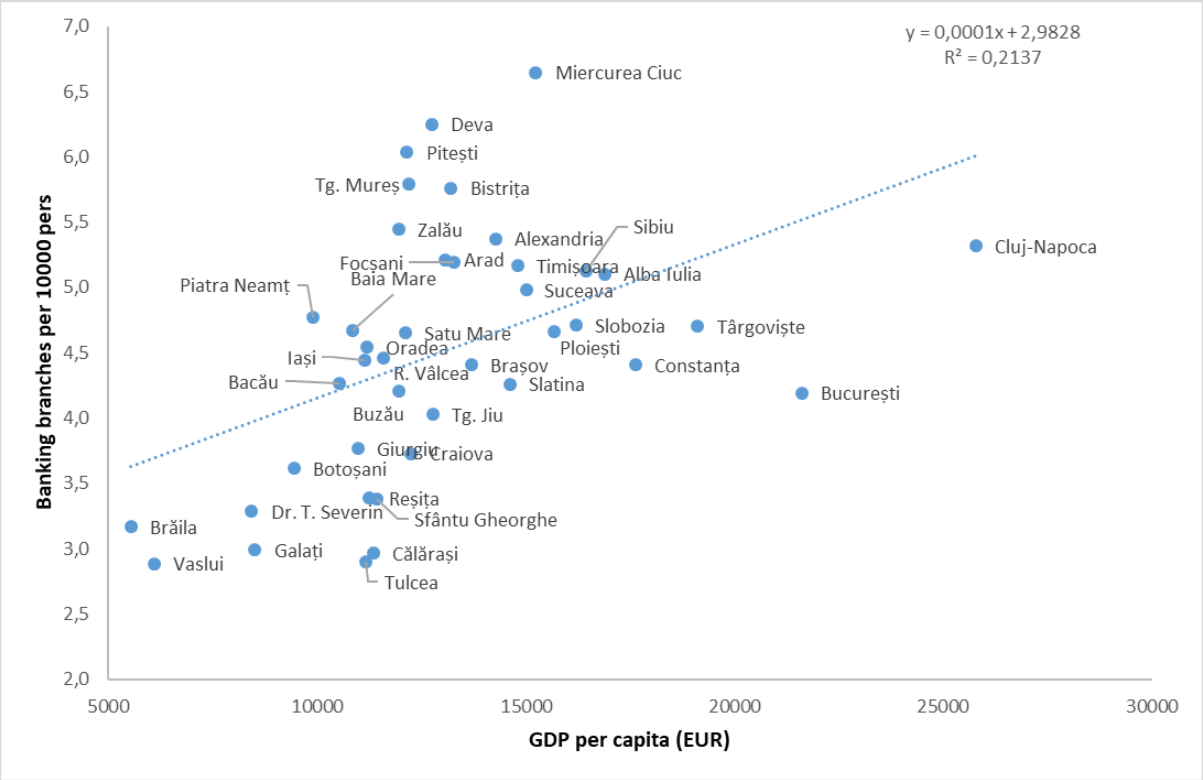


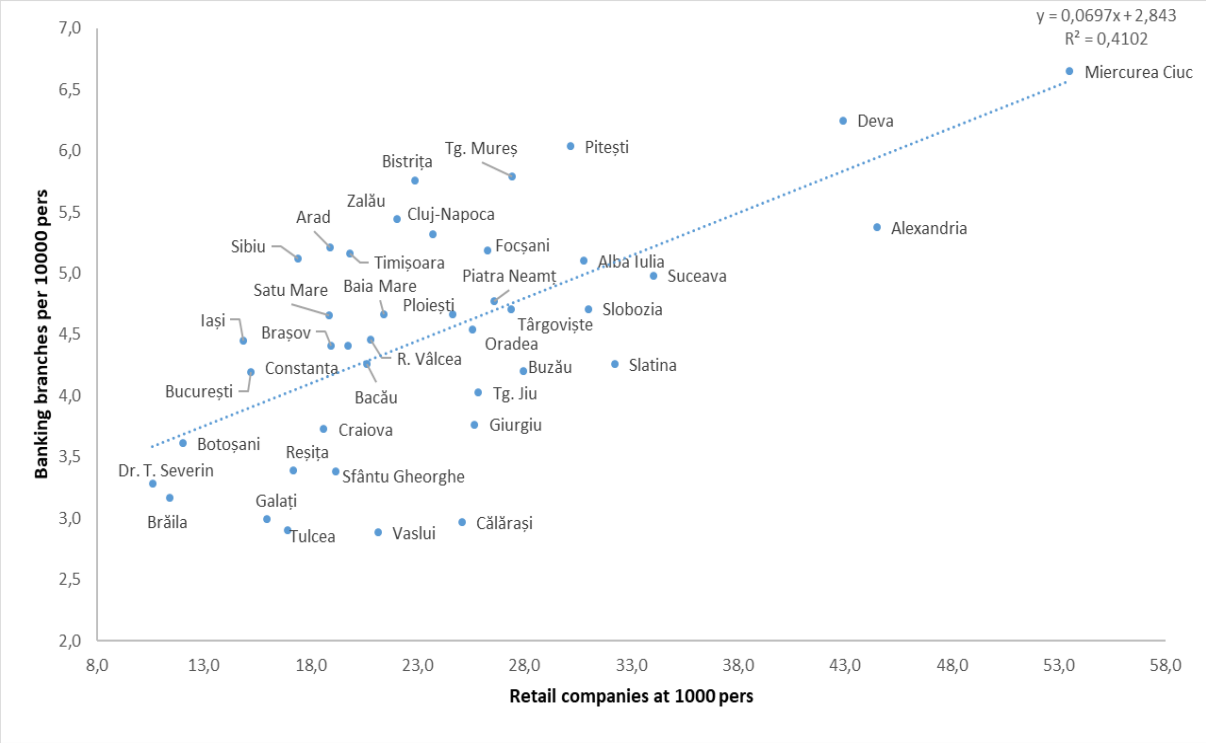


Source: authors' calculations

Also, as Figure 9 shows, there is a positive relationship between the infrastructure and macroeconomic conditions like GDP per capita and number of retail companies. The strength of positive correlation is bigger between banking branches and number of retail companies, 41% while the link with GDP per capita at municipal level is weaker.

Figure 9. Relationship between macroeconomic condition and access to physical infrastructure

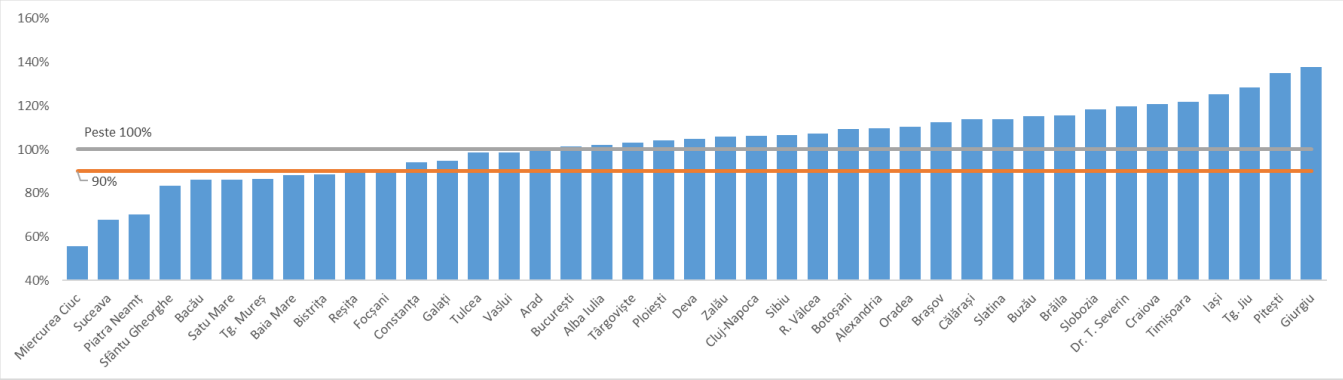




Source: authors' calculations

The last aspect analyzed is the households' loans to deposit ratio in order to cover the importance of financial intermediation at local level. Data is provided by National Bank of Romania, on county level. We considered that, in general, the county-capital cities have the bigger banking activity within the county. Thus, figure below shows that there are 10 counties were the ratio of loans to deposit in 2018 was below 90% and 15 below 100%. Usually, the literature recommends that the ratio should be around 90%.

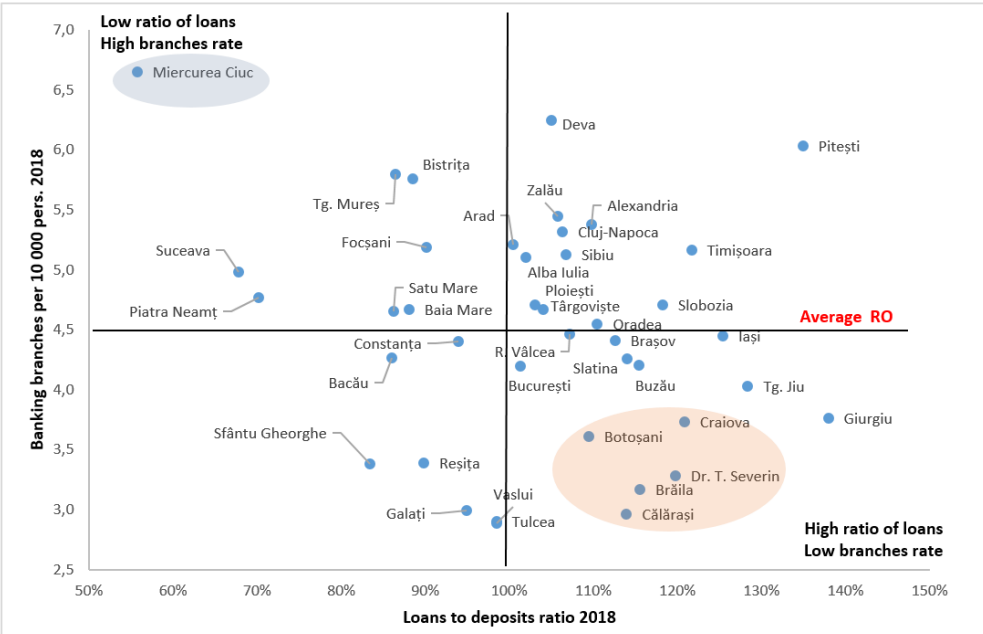
Figure 10. Households' loans-to-deposits ratio (2018)



Source: authors' calculations based on NBR data

From this perspective it seems that at the end of 2018 the most counties are above 100% of the ratio, i.e. over indebted. Especially Giurgiu, Pitești, Târgu Jiu, Iași, Timișoara or Craiova. Also, there are some counties-capital, like Miercurea Ciuc, Suceava, Piața Neamț, where large parts of the deposits aren't used to loans for households.

Figure 10 Relationship between banking branches and households loans-to-deposit ratio (2018)



Source: authors' calculations

4. RECOMMENDATIONS

ISSUE	DESCRIPTION	POTENTIAL SOLUTIONS
FINANCIAL EDUCATION	According to a recent study by KPMG, Romania has to recover a significant gap in the financial education of its population. Only 1 out of 5 adults have a basic understanding of financial products, placing Romania on the last place in Europe with a 21% financial education rate.[12] A total of 19 of the 28 member states in the European Union have implemented a national financial education strategy. Results show that this is the most prolific setting for a systematic approach to financial education.	Financial education is largely seen as the most sustainable solution to tackle financial exclusion. At European level, the Commission has started a series of initiative in the field of financial education, such as establishing the Expert Group on Financial Education, a database of existing initiatives, and various online tools for teachers and organizations. However, as education remains a national responsibility, the European Commission underscored that the best way to increase consumers' level of financial education in the EU is through developing coordinated strategies and integrated action plans in each Member State. A total of 19 of the 28 member states in the European Union have implemented a national financial education strategy. Results show that this is the most prolific setting for a systematic approach to financial education. A National Strategy for Financial Education is currently being developed in Romania as well. It is informed by a coordinated effort on the part of various stakeholders, including government, financial sector, consumer organizations, NGOs etc. More specifically, The Ministry of National Education, the National Bank of Romania, the Ministry of Public Finance, the Financial Supervisory Authority and the Romanian

[12] http://appa-asigurari.ro/doc/Studiu_KPMG_APPA.pdf

		Association of Banks have concluded a Cooperation Agreement[13]. The purpose of the agreement is to develop, acquire and deepen elements of financial education at primary, secondary, high school, university and adult education levels. Joint activities in the field of financial education for target groups and exchange of experience on existing partners' initiatives in the field of financial education.
FINANCIAL INCLUSION	One of the problems for financial inclusion is the extent of the shadow economy. This is not only problematic for the state (as it decreases its fiscal revenues and increases its collection costs), but it also poses problems for the SMEs' sector whose undeclared revenues make them unable to access financing. Currently, in Romania, approximately 75% of the SMEs are self-funded. Furthermore, in a context of undeclared labour (e.g. employers prefer to have grey labour arrangements to avoid fiscal burdens) or transactions, individuals do not benefit from their rights, or full extent	Legislative measures that facilitate the access of vulnerable groups (e.g. impoverished) to financial products (e.g. Law no. 258/2017 on the access to a basic features' bank account—it specifically targeted financially vulnerable consumers (i.e. those whose monthly earnings represented less than 60% of the average salary)). Developing a strategic partnership with the National Federation of Local Action Groups (FNGAL) in order to reach the rural areas with financial inclusion initiatives. The FNGAL covers 93% of the national territory, and it is already specialised in deploying micro-regional interventions in partnership with the Ministry of Labour for social services. Financial inclusion could be boosted if the Government would opt to make digital payments to beneficiaries. In Romania, approximately 30% of public servants are paid in cash, which is the highest level in the region. According to a recent PwC study, there are approximately 20

[13] https://www.arb.ro/acord-de-colaborare-pentru-elaborarea-strategiei-nationale-de-educatie-financiara/

of opportunities available to them, as they lose out on the possibility to save through pension, to access credit financing etc. There is a sharp divide between the capital city of Bucharest and the rest of the country, as the situation in many secondary cities and rural areas is much worse in terms of financial inclusion.

The relationship between financial education and financial inclusion can work in two ways: while better financial education can lead to increased financial inclusion, operating an account or using other financial products can also contributes to improving consumers' financial skills.

bil. Euro paid in cash through social transfers and public sector salaries. If these payments would be made via cards by the Government, then the level of financial inclusion could be significantly increased. However, there is a significant trade-off that has to be resolved, as in the rural areas, card payments would create great difficulties for beneficiaries in the absence of nearby ATMs or other means to obtain cash.

Developing a National Strategy for Financial Intermediation and Financial Inclusion. This could be developed under the authority of the Ministry of Regional Development and Public Administration (MDRAP), through a large task force including public and private stakeholders. The level of financial development and intermediation is strongly associated with the real growth of GDP/capita, with the physical capital accumulation rate and with improving the efficiency with which economies make use of capital[14]. Given that financial inclusion is an efficient and direct instrument to access capital and potentially alleviate poverty and social exclusion, it could also be directly referred to in the National Strategy on Social Inclusion and Poverty Reduction. Developed by the Ministry of Labour, the current version of the Strategy on Social Inclusion and Poverty reduction (2015-2020) makes no reference to financial inclusion, yet it does refer to financial protection. The European Union is also actively pursuing measures to counter poverty. Regulation (EU) No 223/2014 enables the European

[14] https://www.arb.ro/en/romania-needs-a-strategy-to-enhance-both-financial-intermediation-and-financial-inclusion/

	Union to support policies and measures pursued by the Member States to reduce poverty by deploying material and non-material resources. Dedicated EU funding for the period 2014-2020 was approximately 3.5 bil. Euro. Romania can actively pursue such allocations in the next funding period to increase capital accessibility for SMEs in the less developed regions and poverty bags, thus furthering financial inclusion. Increase the POS network by lowering the threshold for POS turnover, requiring POS systems with cash-back capabilities for all retailers generating turnover of EUR 10K equivalent per annum, and ensure all relevant businesses are included and incentivized. Legislative measures that discourage the shadow economy (e.g. cash back thresholds of significant values, fines for undeclared labour).

Selected bibliography

Agarwal S, Driscoll J, Gabaix X, Laibson D. (2009). The age of reason: financial decisions over the life-cycle and implications for regulation. *Brookings Pap. Econ. Act.* (2):51–117

Aghion P, Angeletos G-M, Banerjee A, Manova K (2004) Volatility and growth: The role of financial development. Harvard University

Arora R (2010) Measuring financial access. Discussion Paper in Economics, Griffith University, pp: 1-21

Beck T, Demirgüç-Kunt A, Levine R (2007) Finance, inequality and the poor. J Econ Growth 12: 27-49.

Braunstein, S. & Welch, C. (2002). Financial literacy: An overview of practice, research and policy. *Federal Reserve Bulletin*, 88, 445-457.

Chakraborty, I., 2010. Financial development and economic growth in India: An analysis of the post-reform period. South Asia Economic Journal, 11(2), pp.287-308.

Cumming, Douglas J. and Johan, Sofia A. and Zhang, Minjie, The Economic Impact of Entrepreneurship: Comparing International Datasets (December 31, 2013). Corporate Governance: An International Review

Diamond DW (1984) Financial intermediation and delegated monitoring. Rev Econ Stud 51: 393-414.

Goldsmith RW (1969) Financial Structure and Development. New Haven, CT: Yale University Press.

Hastings, J. S., Madrian, B. C., & Skimmyhorn, W. L. (2013). Financial literacy, financial education, and economic outcomes. *Annu. Rev. Econ.*, *5*(1), 347-373.

Hilgert, M. A., Hogarth, J. M., & Beverly, S. G. (2003). Household financial management: The connection between knowledge and behavior. *Federal Reserve Bulletin*, 89, 309-322

Huston, S. J. (2010). Measuring financial literacy. *Journal of Consumer Affairs*, *44*(2), 296-316.

John H. Boyd & Edward C. Prescott, 1985. "Financial intermediary-coalitions," Staff Report 87, Federal Reserve Bank of Minneapolis.

Kairiza, T., Kiprono, P., & Magadzire, V. (2017). Gender differences in financial inclusion amongst entrepreneurs in Zimbabwe. Small Business Economics, 48

Kempson, E., A. Atkinson and O. Pilley (2004). Policy level response to financial exclusion in developed economies: lessons for developing countries, Report of Personal Finance Research Centre, University of Bristol.

Khan HR (2011) Financial Inclusion and Financial Stability: are they two sides of the same coin? Deputy Governor of the Reserve Bank of India.

King RG, Levine R (1993) Finance and growth: Schumpeter might be right. QJ Econ 108: 713-737.

Lyons, Angela, & Contreras, A. Sergio (2017). A Simultaneous Model of Youth Entrepreneurship and Financial Inclusion Across Developing Countries. SSRN Electronic Journal

Mandell, L., & Klein, L. S. (2009). The impact of financial literacy education on subsequent financial behavior. *Journal of Financial Counseling and Planning*, 20(1).

Mckinnon RI (1973) Money and Capital in Economic Development. Brookings Institute, Washington.

Mehrotra, N., Puhazhendhi, V., Nair, G. G., & Sahoo, B. B. (2009). Financial inclusion an overview. Mumbai. National Bank for Agricultural and Rural Development.

Perry, V.G. (2008). Is ignorance bliss? Consumer accuracy in judgments about credit ratings. *Journal of Consumer Affairs*, 42(2), 189-205.

Robinson J (1952) The generalization of the general theory. The Rate of Interest and Other Essays. Macmillan, London, pp: 67-146.

Schumpeter JA (1911) The Theory of Economic Development: An Inquiry into Profits, Capital, Credit, Interest and the Business Cycle. Harvard University Press, Cambridge.

Sethi, D. and Acharya, D. (2018), "Financial inclusion and economic growth linkage: some cross country evidence", Journal of Financial Economic Policy, Vol. 10 No. 3, pp. 369-385

Sulong Z, Bakar HO (2018) The Role of Financial Inclusion on Economic Growth: Theoretical and Empirical Literature Review Analysis. J Bus Fin Aff 7: 356.

Swamy V (2010) Financial development and inclusive growth: Impact of government intervention in prioritized credit. Zagreb Int Rev Econ Bus 13: 53- 70

Volintiru, C. & Ștefan, G. (2018). *Economic Development and Opportunities in Romania: Local Business Environment Index (LBEI).* White Paper Economic Opportunities, Aspen Institute Romania

About the authors

Clara Volintiru is Associate Professor in the Department of International Business and Economics (REI), at the Bucharest University of Economic Studies (ASE). She graduated a PhD from the London School of Economics and Political Science (LSE) and has been involved in various international research projects in the field of behavioural studies, good governance, informal exchanges and political economy. She has been a consultant for international organizations such as the World Bank, European Commission, Eurofound, Committee of Regions, and Partnership for Research in International Affairs and Development (PRIAD). Her recent publications appeared with Oxford University Press, in *European Political Science Review*, *Eastern European Politics*, or *Research & Politics*. Synthetic versions of her work are available on such online platforms as Forbes, EUROPP, IPI Global Observatory, Emerging Europe, Global Policy or Huffington Post.

George Ștefan is Assistant Professor in the Department of Economics and Economic Policies at Bucharest University of Economic Studies (ASE). His research is focused on the economic development at national and local level, foreign investment, social and economic policies, and economic competitiveness issues, especially in Central and Eastern European countries. In 2018 he was a staff member in the working group regarding the National Plan for Euro adoption. Also, during the last six years he occupied different jobs in the central public administration: adviser at Ministry of Public Finance, adviser at the Department for Foreign Investment and Prime Minister Chancellery. Moreover, he collaborated in different projects with Foreign Investors Council (FIC) and National Commission of Strategy and Prognosis (CNSP).